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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,348	01/04/2005	Toru Ikuta	2224-0237PUS1	5464

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EXAMINER	
KNABLE, GEOFFREY L	
ART UNIT	PAPER NUMBER
1791	

NOTIFICATION DATE	DELIVERY MODE
07/17/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/520,348	IKUTA, TORU	
	Examiner	Art Unit	
	Geoffrey L. Knable	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5,6 and 8-15* is/are pending in the application.

4a) Of the above claim(s) *1,3 and 9-11* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,5,6,8 and 12-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/12/2009 has been entered.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 3 and 9-11 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention/species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7/26/2007.

4. Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 2 as amended defines that a reinforcing layer comprises the resin member whereas claim 5 defines that the resin member forms an adhesive layer. The original disclosure however seems to describe the resin member as being *either* a reinforcing layer (e.g. original claim 4) or an adhesive to a rubber layer (claim 5). There is no clear description of a resin member as a reinforcing layer also forming an adhesive layer as

now defined by claim 5 dependent on claim 2 as amended. This therefore represents subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, i.e. it is new matter.

5. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In addition to the description/new matter issue noted above, the scope of the claim 5 requirement is indefinite as it is not clear how the resin member can both form at least part of the reinforcing layer and be an adhesive for bonding, especially given that claim 2 explicitly requires that the reinforcing layer is bonded "without any adhesive". The scope of this claim is therefore entirely indefinite and confusing.

6. Claims 2, 5, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. (US 6,415,840 - newly cited) taken in view of at least one of [Weaver et al. (US 4,146,513 - newly cited) and Rongone (US 4,063,979 - newly cited)].

Nishikawa et al. disclose a tire including a tire body (e.g. carcass/body ply 2) and a reinforcing layer (e.g. 8a/8b in fig. 1) formed on the inner surface of the tire body. Further, the reinforcing layer can include polyamide fibers (col. 6, lines 49-54) and therefore the reinforcing layer "comprises" a polyamide resin member as claimed. As to the tire body being directly bonded to the reinforcing layer without adhesive, Nishikawa et al. does not indicate that an adhesive is used between layers. Further, it is well known and conventional when building tires to rely upon the building tack of the various

unvulcanized rubber layers making up the tire to retain them until they are finally bonded during vulcanization - Weaver et al. (esp. col. 1, lines 10+) and Rongone (esp. col. 1, lines 16+) are exemplary of this understanding. As such, the ordinary artisan would have found it obvious to build the Nishikawa et al. tire conventionally where the unvulcanized rubber of the reinforcing layers are bonded to the adjacent (e.g. carcass) rubber layer during the tire vulcanization without use of adhesive. Providing the rubber layers of the tire to be sulfur vulcanized would have been obvious to the ordinary artisan given that almost all typical and common rubbers used in tires are sulfur-vulcanized - the exemplary rubber in Table 1 of Nishikawa is also sulfur vulcanized. A tire as required by claim 2 would therefore have been obvious.

The scope of claim 5 is difficult to assess as noted in the 35 USC 112 rejections above. In any event, the polyamide resin fibers are bonded to adjacent rubber and therefore could be called an adhesive. As to claim 6, the reinforcing layer (8) is bonded to the carcass body through another vulcanized rubber layer (10) in the figs. 2E or 4B embodiments. As to claim 8, Nishikawa suggests an aliphatic polyamide resin member.

7. Claims 2, 5, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boussu et al. (US 2,884,040 - newly cited) taken in view of at least one of [Weaver et al. (US 4,146,513 - newly cited) and Rongone (US 4,063,979 - newly cited)] **or** at least one of [Freytag et al. (US 3,596,696) and Buckwalter et al. (US 2,927,051)].

Boussu et al. discloses a tire including a tire body (e.g. carcass/body ply 1) and a reinforcing layer (7) formed on the internal surface of the tire body. Further, this reinforcing layer can either be a ply fabric including polyamide (nylon) cables or the

layer can be a polyamide (nylon) strip and in either case, this reinforcing layer is bonded to the remainder of the tire during the tire manufacture (col. 3, lines 29-53). Further specifics of the tire manufacture are not given although there is no suggestion that an adhesive is used.

If the reinforcing layer is a strip of ply fabric, it would have been obvious to bond the rubber embedding the cords to the remainder of the tire without adhesive as it is well known and conventional when building tires to rely upon the building tack of the various unvulcanized rubber layers/plies making up the tire to retain them until they are finally bonded during vulcanization - Weaver et al. (esp. col. 1, lines 10+) and Rongone (esp. col. 1, lines 16+) are exemplary of this understanding. As such, the ordinary artisan would have found it obvious to build the Boussu et al. tire conventionally wherein the unvulcanized rubber of the reinforcing layer (that embeds the cords) is bonded to the adjacent (e.g. carcass) rubber layer during the tire vulcanization without use of adhesive. Providing the rubber layers of the tire to be sulfur vulcanized would have been obvious to the ordinary artisan given that almost all typical and common rubbers used in tires are sulfur-vulcanized. A tire as required by claim 2 would therefore have been obvious.

If the reinforcing layer is in the form of a nylon/polyamide strip, it would have been obvious to adopt ways known in this art to bond nylon to tire rubber. Freytag et al. and Buckwalter et al., as noted in previous office actions, suggest that nylon can be suitably bonded to tire rubber, without use of a separate adhesive application to the nylon, if defined additives are added to the rubber so that it is capable of forming a

suitable bond to the nylon. As it is known how to bond nylon to rubber in a tire without using adhesive, it would have been obvious to bond the nylon strip in Boussu et al. to the adjacent rubbers without adhesive by suitably compounding the adjacent rubbers, only the expected and predictable results, including avoiding the need to apply an adhesive, being achieved. Providing the rubber layers of the tire to be sulfur vulcanized would have been obvious to the ordinary artisan given that almost all typical and common rubbers used in tires are sulfur-vulcanized. A tire as required by claim 2 would therefore have been obvious for this reason as well.

The scope of claim 5 is difficult to assess as noted in the 35 USC 112 rejections above. In any event, the polyamide resin cables or strip would be bonded to the adjacent rubber and therefore could be called an adhesive. As to claim 6, the reinforcing layer (7) is bonded to the carcass body through another vulcanized rubber layer (e.g. the coating rubber of the carcass). As to claim 8, nylon is an aliphatic polyamide resin member.

8. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over (1) [Nishikawa et al. (US 6,415,840 - newly cited) taken in view of at least one of [Weaver et al. (US 4,146,513 - newly cited) and Rongone (US 4,063,979 - newly cited)]] **or** (2) [Boussu et al. (US 2,884,040) taken in view of at least one of [Weaver et al. (US 4,146,513 - newly cited) and Rongone (US 4,063,979 - newly cited)] or at least one of [Freytag et al. (US 3,596,696) and Buckwalter et al. (US 2,927,051)]] as applied to claim 2 above, and further in view of the Kirk Othmer article entitled “Rubber Chemicals” (newly cited).

As to claims 12-15, a vulcanization activating agent as claimed is read to be inclusive of typical vulcanization accelerators and activators commonly used to aid vulcanization of tire rubbers (as exemplified by for example the Kirk-Othmer article entitled Rubber Chemicals), such being therefore obvious and leading to only the expected and predictable results. The particular amounts thereof would have also been readily and routinely selected by the ordinary artisan through routine optimization for only the expected and predictable results. Further, conventional accelerators have multiple active groups that are taken to read on the claimed polymerizable groups.

9. Applicant's arguments have been considered but are moot in view of the new grounds of rejection necessitated by the amendments to the claims.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey L. Knable/
Primary Examiner, Art Unit 1791

G. Knable
July 14, 2009